Instruction Manual
HAS9xE-IM-ATEX
05/2007

Instruction Manual

CAT 100 & CAT 200
Continuous Analyzer Transmitter
Addendum for Hazardous Area Applications

3rd Edition 05/2007

ROSEMOUNT® Analytical

EMERSON™ Process Management

www.EmersonProcess.com

ESSENTIAL INSTRUCTIONS

READ THIS PAGE BEFORE PROCEEDING!

Emerson Process Management (Rosemount Analytical) designs, manufactures and tests its products to meet many national and international standards. Because these instruments are sophisticated technical products, you **MUST properly install, use, and maintain them** to ensure they continue to operate within their normal specifications. The following instructions **MUST be adhered to** and integrated into your safety program when installing, using and maintaining Emerson Process Management (Rosemount Analytical) products. Failure to follow the proper instructions may cause any one of the following situations to occur: Loss of life; personal injury; property damage; damage to this instrument; and warranty invalidation.

- **Read all instructions** prior to installing, operating, and servicing the product.
- If you do not understand any of the instructions, **contact your Emerson Process Management (Rosemount Analytical) representative** for clarification.
- **Follow all warnings, cautions, and instructions** marked on and supplied with the product.
- **Inform and educate your personnel in the proper installation, operation, and maintenance of the product**.
- **Install your equipment as specified in the Installation Instructions of the appropriate Instruction Manual and per applicable local and national codes**. Connect all products to the proper electrical and pressure sources.
- To ensure proper performance, **use qualified personnel** to install, operate, update, program, and maintain the product.
- When replacement parts are required, ensure that qualified people use replacement parts specified by Emerson Process Management (Rosemount Analytical). Unauthorized parts and procedures can affect the product's performance, place the safe operation of your process at risk, **and VOID YOUR WARRANTY**. Look-alike substitutions may result in fire, electrical hazards, or improper operation.
- **Ensure that all equipment doors are closed and protective covers are in place, except when maintenance is being performed by qualified persons, to prevent electrical shock and personal injury**.

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1st Edition 07/2004 *2nd Edition 07/2005*
3rd Edition 05/2007
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EMERSON. Process Management

PREFACE

This instruction manual provides information about installing, operating and maintaining/servicing CAT series gas analyzers in hazardous (classified) areas and shall be read in conjunction with the standard analyzer instruction manual only!

This instruction manual covers all analyzer variations and and therefore may describe configurations and/or options not part of your specific instrument.

DEFINITIONS

The following definitions apply to WARNINGS, CAUTIONS and NOTES found throughout this publication.

WARNING

Highlights an operation or maintenance procedure, practice, condition, statement, etc.

If not strictly observed, could result in injury, death, or long-term health hazards of personnel.

CAUTION

Highlights an operation or maintenance procedure, practice, condition, statement, etc.

If not strictly observed, could result in damage to or destruction of equipment, or loss of effectiveness.

NOTE

Highlights an essential operating procedure, condition or statement.

Further graphical symbols may be used within this manual:

Elektrostatic discharge (ESD)

Explosion Hazard!

Heavy Instrument!

Harmful (to Health)!

Toxic!

Disconnect from Mains!

All graphical symbols used in this product are from one or more of the following standards: EN61010-1, IEC417, and ISO3864.

SAFETY INSTRUCTIONS

INTENDED USE STATEMENT

CAT series gas analyzers are intended to be used as analyzers for industrial purposes. They must not be used in medical, diagnostic or life support applications, and no independent agency certifications or approvals are to be implied as covering such applications!

SAFETY SUMMARY

If this equipment is used in a manner not specified in these instructions, protective systems may be impaired.

AUTHORIZED PERSONNEL

To avoid explosions, loss of life, personal injury and damage to this equipment and on-site property, do not install, operate or service this instrument before reading and understanding this instruction manual and receiving appropriate training. Save these instructions.

ADDITIONAL LITERATURE

This manual covers aspects specific for using CAT analyzers in hazardous (classified) areas, only.

To install, start-up, operate and maintain/service the instrument in a safe manner it is MANDATORY to read all additional instruction manuals shipped together with the instrument!

The following instruction manuals are available and/or referenced within this manual at hand:

CAT 100:

HAS1xE-IM-HS Instruction manual BINOS 100 series

CAT 200:

HAS3xE-IM-HW Hardware instruction manual NGA MLT series

HAS3xE-IM-SW39 Instruction NGA MLT software V 3.9.x
(Software instruction manual depends on currently installed analyzer software of the internal NGA MLT module)

Contact your local service center or sales office when missing documents. Save all instructions for future use!

WARNING

POSSIBLE HAZARDS

Make sure to understand and observe all additional warnings given in the assoziated analyzer instruction manual!

WARNING

POSSIBLE EXPLOSION HAZARD

When installing these instruments all legislative requirements must be taken into consideration! Take care of the special conditions given within the instruction drawing in the manual on hand!

WARNING

EXPLOSION HAZARD BY MODIFICATION

Any addition, substitution, or replacement of components installed on or in this device, must be certified to meet the hazardous area classification that the device was certified to prior to any such component addition, substitution, or replacement. In addition, the installation of such device or devices must meet the requirements specified and defined by the hazardous area classification of the unmodified device. Any modifications to the device not meeting these requirements, will void the product certification(s).

CAUTION

PARTS INTEGRITY AND UPGRADES

Tampering with or unauthorized substitution of components may adversely affect the safety of this instrument. Use only factory approved components for repair.

Because of the danger of introducing additional hazards, do not perform any unauthorized modification to this instrument.

Contact your local sales office for return Authorization.

WARNING

POSSIBLE EXPLOSION HAZARD

Do not open instrument when energized.

Ensure that external circuitry is disconnected or de-energized before opening the instrument.

Ensure that all gas connections are made as labeled and are leak free. Improper gas connections could result in explosion and death.

WARNING

POSSIBLE EXPLOSION HAZARD

The CAT analyzer may utilize not only sample gas but one or more pressurized carrier gases and/or calibration gases.

If an internal flowmeter is not used, an external flowmeter is required for flow control. Legislative requirements and instructions for installation in hazardous (classified) areas must be considered.

HOW TO STAY IN COMPLIANCE WITH THE EUROPEAN DIRECTIVE 94/9/EC („ATEX“) WHEN PERFORMING GAS ANALYSIS WITHIN A FLAMEPROOF ENCLOSURE.

Special conditions apply to using a flameproof enclosure analyzer under the scope of the „European Directive for Equipment used in Explosive Atmosphere“ (Directive 94/9/EC; ATEX). To stay compliant to the directive please consider the following clarification sheet released by the European ATEX Notified Body Group:

E_xNB	Co-ordination of Notified Bodies Electrical Equipment for use in potentially explosive atmospheres on Council Directive 94/9/EEC	EOTC/00/007 Issued: February 10, 2000 CS/99/06/069

European ATEX Notified Bodies Group

Interpretation/Clarification Sheet N° 99/06/069/CS Edition 1.0

Original in English

Status :	Step* 5.2.1■ question ExNB/98(EECS)002		Date : 20/04/98
	Step* 5.2.3■ proposal	**Proposer :** DMT	Date : 05/06/98
	Step* 5.2.4■	**Received for publication**	Date : 15-16/06/99

*Step refers to ExNB Rules

■ authorised **Chairman : M. BRÉNON**

Date of application : 16/06/99 **Signature :**

SUBJECT : EN 50018 : 1994 Gas analysis performed within a flameproof enclosure

Question : ***What restrictions are necessary on the contents of the gas system/process line in order to validate the use of « Flameproof Enlcosure » as the protection concept.***

Answer :

1 **Oxygen shall be present in the process line only as a constituent of an inert/oxygen gas mixture of which the oxygen represents no more than that normally present in air.**

2 **The gas mixture in process line shall not be within the explosive limits continuously, for long periods or frequently.**

If the gas mixture is above UEL in normal service, gas leakage into the main enclosure due to failure of the gas containment shall not remain undetected for long periods.

If the gas mixture is above UEL in normal service and if the gas measuring system contains potential ignition sources (e.g. heated wires) in the process line, the line shall be purged with process gas before the measuring system is activated and the measuring system shall be de-activated before shut down of the process.

3 **If the pressure in the process line in normal operation is higher than 1.1 bar, the following applies :**

3.1 **The gas mixture shall not be within the explosive limits in normal operation. This can be realized e.g. by purging the line with process gas or with inert gas before the measuring system is actived.**

3.2 **Even in case of total leakage of the gas containment, the pressure in the main enclosure shall not be higher than 1.1 bar.**

3.3 **The process line shall not contain potential sources of ignition and, taking into account the maximum pressure in service, the breathing devices shall be tested with respectively precompressed mixtures.**

This ExNB Interpretation/Clarification Sheet has the sole purpose of clarifying the application of the EN Standards and/or of the requirements of Directive 94/9/EC and related documents. It does not in any way change the content of the standards and/or of the requirements. It remains valid until an official answer is received from the European Commission or the relevant standardization bodies.

ExNB03/S87/Autres

Compliances

This product is certified by several agencies for the use in hazardous (classified) areas. The following certification marks show up on the product‘s nameplate label:

Zone classification:

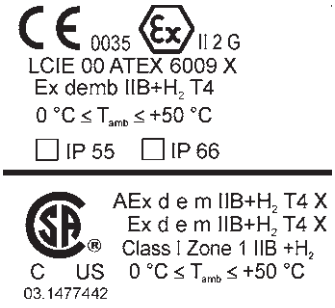
USA	Class I Zone 1, AEx d e m IIB + H2 T4 X
Canada	Class I Zone 1, Ex d e m IIB + H2 T4 X
European Union	ATEX, Category 2, Zone 1, Ex demb IIB + H2 T4 X

USA/Canada
Certified by the Canadian Standards Association, an „OSHA Nationally Recognized Testing Laboratory“ (NRTL) for USA and Kanada. CSA certificate no.: 1477442.

European Union (EU)
Conforms with the provisions of the EMC Directive 89/336/EEC, Potentially Explosive Atmospheres Directive 94/9/EC and CE Directive 93/68/EEC.

EC ATEX Type Examination Certificate: LCIE 00 ATEX 6009 X.
EMERSON Process Management submitted samples for type examination of conformance to a independent Notified Body (Laboratoire Central des Industries Electriques; LCIE), which issued a type examination certificate.

Analyzer markings:


0035
II 2 G
LCIE 00 ATEX 6009 X
Ex demb IIB+H2 T4
0 °C ≤ Tamb ≤ +50 °C
IP 55
IP 66
AEx d e m IIB+H2 T4 X
Ex d e m IIB+H2 T4 X
Class I Zone 1 IIB +H2
0 °C ≤ Tamb ≤ +50 °C
C US
03.1477442

See appendix for a copy of the ATEX type examination certificate.

Compliances

Special CSA approved versions with extended temperature range are available, too. These versions show different markings:

☐ IP 55 ☐ IP 66

C US
03.1477442

AEx d e m IIB+H_2 T4 X
Ex d e m IIB+H_2 T4 X
Class I Zone 1 IIB +H_2
-30 °C ≤ T_{amb} ≤ +50 °C

Special Installation Condition.
See schematic inside the
Increased Safety Junction Box.

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CHAPTER 1
INSTALLATION

WARNING

POSSIBLE EXPLOSION HAZARD

Installing and wiring this instrument must comply with all relevant national legislative requirements and regulations.

Consider all safety instructions within this on hand manual and all associated analyzer instruction manuals!

Take care of the special instructions at the installation drawing at the next page!

WARNING

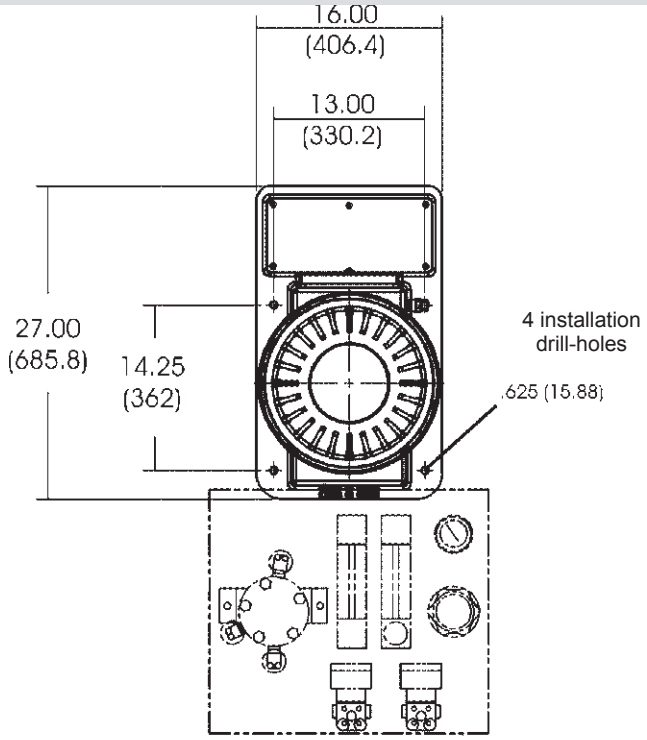
POSSIBLE EXPLOSION HAZARD

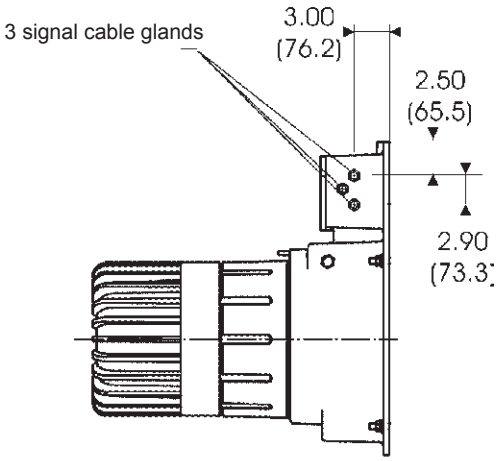
Installing this instrument requires opening the enclosure and working at the open instrument. This is permitted only when both no hazardous atmosphere is present and the instrument and connected external circuitry are de-energized!

Depending on the local regulation this may require a competent hot work supervisor to ssue a hot work permit.

More detailled instructions about installing these instruments are given by the associated analyzer instruction manual.

1 Installation





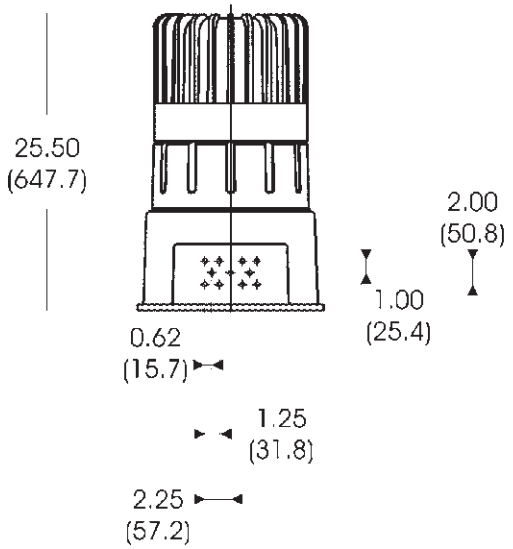


Fig. 1: Installation drawing and analyzer dimensions, inch (mm)

A. Ex e junction box

B. Threads for cable glands for analog and digital signal cables (M16 x 1,5)

C. 11 gas fittings (number depending on application; flame arrestors inside gas inlets and outlets).

D. Optional sample handling system, design depending on applicational needs.

Note:
Junction box must be protected by fuse supply, which has a breaking capacity adjusted to the short circuit of the equipment (10 amps / 250 VAC).

CHAPTER 2
STARTUP

Once the CAT analyzer is installed correctly and in accordance to the instructions given in chapter „Installation“ it is prepared for startup.

WARNING

POSSIBLE EXPLOSION HAZARD

Ensure all covers, plugs and housing parts are in place and secured properly before supplying mains and signal voltages!

Ensure all requirements given by the clarification sheet for performing gas analysis within a flameproof enclosure are considered BEFORE supplying gases (see page S-6)!

This sheet gives instructions, too, for the sequence of supplying gases during process and analyzer startup .

After all safety aspects are followed and checked the instrument may be powered and operated according the instructions given in the related instrument‘s instruction manual.

2 Startup

CHAPTER 3
SERVICE AND MAINTENANCE

WARNING

POSSIBLE EXPLOSION HAZARD

Inspection, maintenance and service must be carried out considering all related standards (e.g. EN 60079-17 “Inspection and maintenance of electrical installations in hazardous areas (other than mines)”

WARNING

POSSIBLE EXPLOSION HAZARD

Service or replacement of safety related components or requiring to open the instrument are permitted only if no hazardous atmosphere is present and both the instrument and connected circuitry are de-energized!

Depending on the local regulation this may require a competent hot work supervisor to ssue a hot work permit.

WARNING

POSSIBLE EXPLOSION HAZARD

After maintenance or replacement of parts concerning explosion protection an authority on explosion protection has to verify that the analyzer still meets the requirements for explosion protection before it is switched on again.

Parts essential for explosion protection must not be repaired, they have to be replaced if defective!

The authority has to issue a certificate for this and/or attach a test label to the equipment before startup after maintenance or replacement of parts.

3 Service and Maintenance

WARNING

FLAMMABLE GASES - POSSIBLE EXPLOSION HAZARD

Leaks may cause explosion when measuring flammable gases!

When measuring flammable gases it is recommended to perform a leak test on all gas paths, connections and components before startup or applying power. Leak tests should be carried out on a 2 month‘s regular basis and after repair/maintenance.

See the analyzer instruction manual for instructions on how to carry out leak tests.

WARNING

FLAMMABLE GASES - POSSIBLE EXPLOSION HAZARD

When measuring flammable gases it is recommended to purge the system with air or an inert gas, e.g. nitrogen, prior to opening the enclosure.

Violation may cause an explotion!

More detailled instructions about servicing and maintaining CAT analyzers are subject of the associated analyzer instruction manuals.

APPENDIX

This chapter contains series CAT EC declarations of conformity and EC type examination certificates.

A-1 EC Declaration of Conformity

A-1 EC Declaration of Conformity

EC DECLARATION OF CONFORMITY

Document number: RAE/CAT-ATEX-E5
Date: 2007, May

We,

Emerson Process Management GmbH & Co. OHG

located at

Industriestrasse 1, D-63594 Hasselroth, Germany

declare under our sole responsibility that our gas analyzer, type

CAT,

with flameproof enclosure, approved for service in hazardous locations and marked

CE 0035 Ex II 2 G
Ex demb IIB + H_2 T4
LCIE 00 ATEX 6009 X

conforms to the provisions of the following European Directives:

89/336/EEC **EMC Directive (changed by directive 91/263/EEC 92/31/EEC and 93/68/EEC)**
with the application of the harmonized standards including the latest amendments:

EN 61326-1:1997 + A1:1998 + A2:2001 + A3:2003

94/9/EC **Equipment and protective systems in potentially explosive atmospheres**
with the application of the harmonized standards including the latest amendments:

EN 60079-0: 2006
EN 60079-1: 2004
EN 60079-7: 2007
EN 60079-18 :2004

Production is monitored according annex VII by
TÜV RHEINLAND INDUSTRIE SERVICE GMBH
Am Grauen Stein, D-51105 Köln, Germany
Notified Body of the European Union under directive 94/9/EC, identification no. 0035

97/23/EC **Pressure Equipment Directive**
This analyzer has been designed and manufactured considering article 3, paragraph 3 of the above mentioned directive and therefore CE marking does not refer to this directive.

The standards published in the EC's OFFICIAL JOURNAL with reference to directive 73/23/EC (e.g. EN 61010-1) have been used to fulfill 1.2.7 of Annex II of directive 94/9/EC to eliminate electrical risks.

Hasselroth, May 2007

(Signature)

Ian Macleod
(Name)

VP Sales & Marketing EMA
(Function name)

ROSEMOUNT Analytical

EMERSON

This declaration confirms the compliance with announced directives but does not include the assurance of properties.
The safety and installation instructions of the documentation have to be followed

A-2 EC Type Examination Certificates

1	**ATTESTATION D'EXAMEN CE DE TYPE**		1	**EC TYPE EXAMINATION CERTIFICATE**	
2	Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles **Directive 94/9/CE**		2	Equipment or Protective System Intended for use in Potentially explosive atmospheres **Directive 94/9/CE**	
3	Numéro de l'attestation CE de type **LCIE 00 ATEX 6009 X**		3	EC type Examination Certificate number **LCIE 00 ATEX 6009 X**	
4	Appareil ou système de protection Transmetteur pour analyseur en continu Type CAT ...		4	Equipment or Protective system Continuous Analyzer Transmitter Type CAT ...	
5	Demandeur :	Rosemount Analytical Inc.	5	Applicant :	Rosemount Analytical Inc.
6	Adresse :	4125 E La Palma Avenue Anaheim, California 92807-1802 USA	6	Address :	4125 E La Palma Avenue Anaheim, California 92807-1802 USA
7	Cet appareil ou système de protection et ses variantes éventuelles acceptées est décrit dans l'annexe de la présente attestation et dans les documents descriptifs cités en annexe.		7	This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein refered to.	
8	Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que cet appareil ou système de protection est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction d'appareils et de systèmes de protection destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la directive. Les vérifications et épreuves figurent dans notre rapport confidentiel N° 15 098 010.		8	LCIE, notified body number 0081 in accordance with article 9 of the directive 94/9/CE of the European Parliament and Council of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres, given in Annex II to the directive. The examination and test results are recorded in confidential report No 15 098 010.	
9	Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants : - EN 50014 (1992) - EN 50018 (1994) - EN 50019 (1994) - EN 50028 (1987)		9	Compliance with the Essential Health and Safety Requirements has been assured by compliance with : - EN 50014 (1992) - EN 50018 (1994) - EN 50019 (1994) - EN 50028 (1987)	
10	Le signe X lorsqu'il est placé à la suite du numéro de l'attestation, indique que ce matériel ou système de protection est soumis aux conditions spéciales pour une utilisation sûre, mentionnées dans l'annexe de la présente attestation.		10	If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.	
11	Cette attestation d'examen CE de type concerne uniquement la conception et la construction de l'appareil ou du système de protection spécifié, conformément à la directive 94/9/CE. Des exigences supplémentaires de cette directive sont applicables pour la fabrication et la fourniture de l'appareil ou du système de protection.		11	This EC Type examination certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of Directive applies to the manufacture and supply of this equipment or protective system.	
12	Le marquage de l'appareil ou du système de protection devra comporter, entre autres indications utiles, les mentions suivantes : 0081 Ex II 2 G EEx d e m IIB + H_2 T4		12	The marking of the equipment or protective system shall include the following : 0081 Ex II 2 G EEx d e m IIB + H_2 T4	

Fontenay-aux-Roses, le 2 mai 2000

Le Directeur de l'organisme certificateur
Manager of the certification body

Par délégation
Michel BRÉNON
Directeur adjoint
à la Certification

Timbre sec/dry seal

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LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

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Siège social : 33, avenue du Général Leclerc - F 92260 Fontenay-aux-Roses - Tél. : +33 (0)1 40 95 60 60

A-2 EC Type Examination Certificates

LCIE

(A1) **ANNEXE**

(A2) **ATTESTATION D'EXAMEN CE DE TYPE**

LCIE 00 ATEX 6009 X

(A4) **Description de l'équipement ou du système de protection**

Le type CAT (Transmetteur pour analyseur en continu) présente une conception complètement modulaire incluant une enveloppe antidéflagrante et une boîte de sécurité augmentée.

L'alimentation électrique (puissance et communications) se fait dans la boîte de jonction de sécurité augmentée.

Les connections entre la boîte de sécurité augmentée et la boite antidéflagrante se font à travers 3 traversées de cloison EEx scellées.

La liaison entre les bornes de sécurité augmentée EEx e et les traversées de cloisons EEx d comprend un filtre/Ferrite EMI protégé par encapsulation EEx m.

Le type CAT a été conçu pour la mesure en continu de 1 à 3 composants dans un seul analyseur.

Tension 115 ou 230 V C.A., 50/60 Hz, Puissance : 180 W

Le marquage sera le suivant :

- Rosemount Analytical Inc.
- Type : CAT ...
- N° de fabrication : ...
- Année de fabrication : ...
- Ex II 2 G
- EEx d e m IIB + H_2 T4
- LCIE 00 ATEX 6009 X
- Caractéristiques électriques
- Température ambiante : + 0 °C à + 50 °C
- IP55
- Ne pas ouvrir sous tension

- *Prudence* : Ne pas mettre en service avant d'avoir lu et compris le manuel d'instructions et sans avoir reçu la formation appropriée.

Le marquage CE est accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système de qualité (0081 pour le LCIE).

(A4) **Documents descriptifs**

Dossier technique du 3 avril 2000.
Ce document comprend 26 rubriques (37 pages).

(A1) **SCHEDULE**

(A2) **EC TYPE EXAMINATION CERTIFICATE**

LCIE 00 ATEX 6009 X

(A4) **Description of Equipment or Protective System**

The model CAT (Continuous Anlayzer Transmitter) features a fully modular design housed in a field mountable flameproof (EEx d) and increased safety (EEx e).

Field electrical connections, power and communications, are made to the Increased Safety Junction Box.

The connections from the Increased Safety Junction box into the flameproof enclosure are made through three EEx sealed feed throughs.

The a.c line connection between the EEx e power terminals and the EEx d sealed feed through, Incorporates an EMI filter/Ferrite assembly, protected by encapsulation EEx m.

The CAT has been designed to continuously measure from 1 to 3 components in a single analyzer.

Voltage 115 or 230 V AC, 50/60 Hz, Power : 180 W

The marking will be the following :

- Rosemount Analytical Inc.
- Type : CAT ...
- Serial number : ...
- Year of construction : ...
- Ex II 2 G
- EEx d e m IIB + H_2 T4
- LCIE 00 ATEX 6009 X
- Electrical characteristics
- Ambient temperature : + 0 °C to + 50 °C
- IP55
- Do not open while energized

- *Caution* : Do not operate or service before reading and understanding the instruction manual and receiving appropriate training.

The CE marking shall be accompanied by the identification number of the notified body responsible for surveillance of the quality system (0081 for the LCIE).

(A4) **Descriptive documents :**

Technical file dated April 3, 2000.
This file includes 26 items (37 pages).

05.01

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A-2 EC Type Examination Certificates

LCIE

(A1) **ANNEXE**

(A2) **ATTESTATION D'EXAMEN CE DE TYPE**

LCIE 00 ATEX 6009 X (suite)

(A5) **Conditions spéciales pour une utilisation sûre**

La partie de matériel protégée par le mode de protection "m" devra être protégée à sa source d'alimentation par un fusible ayant un pouvoir de coupure adapté au courant de court-circuit de l'appareil.

(A6) **Exigences essentielles en ce qui concerne la sécurité et la santé**

La conception du matériel satisfait aux normes européennes EN 50014, EN 50018, EN 50019 (seconde édition) et EN 50028 (1987).

L'enveloppe antidéflagrante est dispensée d'épreuve individuelle.

La partie d'équipement protégée par le mode de protection "m" est soumise à l'épreuve individuelle suivante :

- Examen visuel suivant le paragraphe 7.1 de EN 50028.

- Épreuve diélectrique suivant le paragraphe 7.2 de EN 50028.

- Vérification des caractéristiques électriques suivant le paragraphe 7.3 de EN 50028.

(A1) **SCHEDULE**

(A2) **EC TYPE EXAMINATION CERTIFICATE**

LCIE 00 ATEX 6009 X (continued)

(A5) **Special conditions for safe use**

The part of the equipment protected by the type of protection "m" must be protected by fuse supply which has a breaking capacity adjusted to the short circuit of the equipment.

(A6) **Essential Health and Safety Requirements**

The design of the equipment complies to European standards EN 50014, EN 50018, EN 50019 (second edition) and EN 50028 (1987).

The flameproof enclosure is exempted from routine test.

The part of equipment protected by the type of protection "m" is submitted to the following routine test :

- Visual examination according to the paragraphe 7.1 of EN 50028.

- Dielectric strength test according to the paragraph 7.2 of EN 50028.

- Verification of electrical characteristics according to the paragraph 7.3 of EN 50028.

05.01

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A-2 EC Type Examination Certificates

(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6009 X du 2 mai 2000

AVENANT 00 ATEX 6009 X/01

(A2) DÉSIGNATION DE L'ÉQUIPEMENT OU DU SYSTÈME DE PROTECTION :

Transmetteur pour analyseur en continu
Type : CAT
Construit par : Rosemount Analytical Inc.

(A3) OBJET DE L'AVENANT, DESCRIPTION DE L'APPAREIL OU DU SYTÈME DE PROTECTION :

Création d'un deuxième site de production :

Fisher - Rosemount GmbH
Industriestrasse 1
D - 63594 HASSELROTH
GERMANY

Marquage : Inchangé, excepté pour la nouvelle adresse.

(A4) DOCUMENTS DESCRIPTIFS :

Lettre officielle de Rosemount Analytical Inc. du 25/02/2002. (1 page)

Le dossier de certification relatif à l'attestation CE de type 00 ATEX 6009 X s'applique pour ce nouveau site.

(A5) CONDITIONS SPÉCIALES POUR UNE UTILISATION SÛRE :

Inchangées.

(A6) EXIGENCES ESSENTIELLES EN CE QUI CONCERNE LA SÉCURITÉ ET LA SANTÉ :

Inchangées.

Fontenay-aux-Roses, le 8 avril 2002

Le Directeur de l'organisme certificateur
Manager of the certification body

Par délégation
Michel BRÉNON
Directeur adjoint
à la Certification

Timbre sec/Dry seal

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009 X dated May 2, 2000

VARIATION 00 ATEX 6009 X/01

(A2) NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :

Continuous Analyzer Transmitter
Type : CAT
Manufactured by : Rosemount Analytical Inc.

(A3) SUBJECT OF THE VARIATION, DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM :

New alternate facility :

Fisher - Rosemount GmbH
Industriestrasse 1
D - 63594 HASSELROTH
GERMANY

Marking : Unchanged, excepted for the new address.

(A4) DESCRIPTIVE DOCUMENTS :

Official letter of Rosemount Analytical Inc. dated February 25th, 2002. (1 page)

The certification file with reference to the EC type examination certificate 00 ATEX 6009 X is available for the new facility.

(A5) SPECIAL CONDITIONS FOR SAFE USE :

Unchanged.

(A6) ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :

Unchanged.

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Société anonyme à Directoire et Conseil de surveillance au capital de 15 745 984 euros - RCS Nanterre B 408 363 174
33, avenue du Général Leclerc - BP n° 8 - F 92266 FONTENAY-AUX-ROSES CEDEX - Tél. : +33 1 40 95 60 60

A-2 EC Type Examination Certificates

(A1) **ATTESTATION D'EXAMEN DE TYPE**
LCIE 00 ATEX 6009 X du 2 mai 2000

AVENANT LCIE 00 ATEX 6009 X/02

(A2) DESIGNATION DE L'EQUIPEMENT OU DU SYSTEME DE PROTECTION :

Transmetteur pour analyseur en continu
Type : CAT...

Construit par : EMERSON PROCESS Management

(A3) OBJET DE L'AVENANT, DESCRIPTION DE L'APPAREIL OU DU SYTEME DE PROTECTION :

- Changement de raison sociale et de l'adresse du demandeur qui deviennent :
EMERSON PROCESS Management
Manufacturing GmbH & Co. OHG
Industriestrasse 1
63594 HASSELROTH
ALLEMAGNE

- Modifications du panneau de commandes pour que les touches soient rendues activables magnétiquement.

Modification du marquage :

Raison sociale et adresse remplacés par :

EMERSON PROCESS Management
Manufacturing GmbH & Co. OHG
Industriestrasse 1
63594 HASSELROTH
ALLEMAGNE

(A4) DOCUMENTS DESCRIPTIFS :

Dossier technique N° 4.271-6078/4 Rév. 3 du 14 juillet 2003.
Ce dossier comprend 11 rubriques (23 pages).

(A5) CONDITIONS SPECIALES POUR UNE UTILISATION SURE :

Inchangées.

(A6) VERIFICATIONS ET EPREUVES INDIVIDUELLES :

Inchangées.

(A7) EXIGENCES ESSENTIELLES EN CE QUI CONCERNE LA SECURITE ET LA SANTE :

Fontenay-aux-Roses, le 4 septembre 2003

(A1) **TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009 X dated May 2nd, 2000

VARIATION LCIE 00 ATEX 6009 X/02

(A2) NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :

Continuous Analyser Transmitter
Type : CAT...

Manufactured by : EMERSON PROCESS Management

(A3) SUBJECT OF THE VARIATION, DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM :

- New company name and address of applicant, which become :

EMERSON PROCESS Management
Manufacturing GmbH & Co. OHG
Industriestrasse 1
63594 HASSELROTH
GERMANY

- Modifications of the front panel, so as keys become magnetically activated.

Modification of the marking :

Company name and address replaced by :

EMERSON PROCESS Management
Manufacturing GmbH & Co. OHG
Industriestrasse 1
63594 HASSELROTH
ALLEMAGNE

(A4) DESCRIPTIVE DOCUMENTS :

Technical file No. 4.271-6078/4 Rev. 3 dated July 14th, 2003.
This file includes 11 items (23 pages).

(A5) SPECIAL CONDITIONS FOR SAFE USE :

Unchanged.

(A6) INDIVIDUAL EXAMINATIONS AND TESTS :

Unchanged.

(A7) ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :

Le Directeur de l'organisme certificateur
Manager of the certification body

p.o Marc GILLAUX
Timbre sec/Dry seal

Page 1/1

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Laboratoire Central — BP 8 — Fax : +33 1 40 95 86 56 — et conseil de surveillance
des Industries Electriques — 92260 Fontenay-aux-Roses cedex — contact@lcie.fr — au capital de 15 745 984 €
Une société de Bureau Veritas — France — www.lcie.fr — RCS Nanterre B 408 363 477

A-2 EC Type Examination Certificates

L C I E

(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6009 X du 2 mai 2000

AVENANT LCIE 00 ATEX 6009 X/03

(A2) DESIGNATION DE L'EQUIPEMENT OU DU SYSTEME DE PROTECTION :

Transmetteur pour analyseur en continu
Type : CAT...

Construit par : EMERSON PROCESS Management

(A3) OBJET DE L'AVENANT, DESCRIPTION DE L'APPAREIL OU DU SYTEME DE PROTECTION :

- Mise à jour des documents techniques ne remettant pas en cause les modes de protection.
- Remplacement d'un bouchon entre l'enveloppe antidéflagrante et la boîte de sécurité augmentée par une traversée de cloison, permettant la mise en place d'un bus de données et offrant une nouvelle possibilité d'entrée/sortie de signal.
- Ajout d'un perçage supplémentaire sur la boîte de sécurité augmentée pour offrir une nouvelle entrée/sortie de signal.
- Possibilité de monter dans la boîte de sécurité augmentée des bornes de raccordement EEx e d'un type certifié, autres que les bornes Phoenix.
- Ajout de deux nouveaux principes de mesure :
  - Transmetteur d'oxygène certifié KEMA 03 ATEX 1505 U,
  - Capteur électrochimique d'oxygène TO2.
- Augmentation de la puissance dissipée : 240 W, sans modification du classement en température.

Modification du marquage :

Inchangé.

(A4) DOCUMENTS DESCRIPTIFS :

Dossier technique N° 4.271-6078/4 Rév. 4 du 11 décembre 2003.
Ce dossier comprend 26 rubriques (33 pages).

(A5) CONDITIONS SPECIALES POUR UNE UTILISATION SURE :

Inchangées, avec en supplément :

Le transmetteur d'oxygène certifié KEMA 03 ATEX 1505 U est un matériel associé de sécurité intrinsèque qui n'est pas prévu pour le raccordement de matériels de sécurité intrinsèque. Aucun équipement certifié de sécurité intrinsèque ne devra être utilisé en association avec ce matériel.

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009 X dated May 2nd, 2000

VARIATION LCIE 00 ATEX 6009 X/03

(A2) NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :

Continuous Analyser Transmitter
Type : CAT...

Manufactured by : EMERSON PROCESS Management

(A3) SUBJECT OF THE VARIATION, DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM :

- Update of the technical documents, which not affect the types of protection.
- Replacement of a plug between flameproof enclosure and increased safety box by a feedthrough, permitting the adjunction of a Foundation Fieldbus and offering an additional avaible input/output signal option.
- Adjunction of an additional drilling on increased safety box, offering a new possibility of input/output signal.
- Possibility to install in increased safety box terminals with EEx e certification, in supplement to Phoenix type Ex contacts.
- Adjunction of two new measuring principles :
  - Oxygen transmitter certified under reference KEMA 03 ATEX 1505 U,
  - Electrochemical oxygen sensor TO2.
- Increase of the dissipated power : 240 W, without modification of the temperature classification.

Modification of the marking :

Unchanged.

(A4) DESCRIPTIVE DOCUMENTS :

Technical file No. 4.271-6078/4 Rev. 4 dated December 11th, 2003.
This file includes 26 items (33 pages).

(A5) SPECIAL CONDITIONS FOR SAFE USE :

Unchanged, with in supplement :

The oxygen transmitter certified under reference KEMA 03 ATEX 1505 U is an associated intrinsic safety apparatus which is not intended to be connected to intrinsic safety equipments. Any certified intrinsic safety equipment shall not be used in association with this product.

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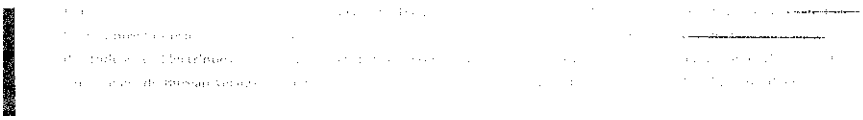

A-2 EC Type Examination Certificates

(A1) **ATTESTATION D'EXAMEN CE DE TYPE LCIE 00 ATEX 6009 X du 2 mai 2000**

AVENANT LCIE 00 ATEX 6009 X/03 (suite)

(A1) **EC TYPE EXAMINATION CERTIFICATE LCIE 00 ATEX 6009 X dated May 2nd, 2000**

VARIATION LCIE 00 ATEX 6009 X/03 (continued)

(A6) VERIFICATIONS ET EPREUVES INDIVIDUELLES :

Inchangées.

(A6) INDIVIDUAL EXAMINATIONS AND TESTS :

Unchanged.

(A7) EXIGENCES ESSENTIELLES EN CE QUI CONCERNE LA SECURITE ET LA SANTE :

Inchangées.

(A7) ESSENTIAL HEALTH AND SAFETY REQUI-REMENTS :

Unchanged.

Fontenay-aux-Roses, le 3 juin 2004

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/Dry seal

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A-2 EC Type Examination Certificates

L C I E

(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6009X
du 02 mai 2000

AVENANT 00 ATEX 6009X /04

(A2) DESIGNATION DE L'EQUIPEMENT OU DU SYSTEME DE PROTECTION :

Transmetteur pour analyseur en continu
Type : CAT...

Construit par : EMERSON PROCESS Management

(A3) OBJET DE L'AVENANT, DESCRIPTION DE L'APPAREIL OU DU SYTEME DE PROTECTION :

Remplacement du dispositif de respiration par un bouchon : Ajout du degré de protection IP66

Marquage :

EMERSON PROCESS Management
Adresse
Type : CAT...
N° de fabrication
Année de fabrication
Ex II 2 G
EEx d e m IIB + H_2 T4
LCIE 00 ATEX 6009X
Caractéristiques électriques
Ta : +0°C à +50°C
IP 66
NE PAS OUVRIR SOUS TENSION.

(A4) DOCUMENTS DESCRIPTIFS :

Dossier technique N° 4.271-6078/4 Rév. 5 du 27 janvier 2005.
Ce dossier comprend 5 rubriques (8 pages).

(A5) CONDITIONS SPECIALES POUR UNE UTILISATION SURE :

Inchangées

(A6) VERIFICATIONS ET EPREUVES INDIVIDUELLES :

Inchangées.

(A7) EXIGENCES ESSENTIELLES EN CE QUI CONCERNE LA SECURITE ET LA SANTE :

Inchangées.

Fontenay-aux-Roses, le 18 février 2005

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6009X
dated May 2nd, 2000

VARIATION 00 ATEX 6009X /04

(A2) NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :

Continuous analyser transmitter
Type : CAT...

Manufactured by : EMERSON PROCESS Management

(A3) SUBJECT OF THE VARIATION, DESCRIPTION OF EQUIPMENT OR PROTECTIVE SYSTEM :

Replacement of the breather by a plug.
Add of protection degree IP66

Marking :

EMERSON PROCESS Management
Address
Type : CAT...
Serial number
Year of construction
Ex II 2 G
EEx d e m IIB + H_2 T4
LCIE 00 ATEX 6009X
Electrical characteristics
Ta : +0°C à +50°C
IP 66
DO NOT OPEN WHILE ENERGIZED.

(A4) DESCRIPTIVE DOCUMENTS :

Technical file N° 4.271-6078/4 Rév. 5 dated January 27, 2005.

This file includes 5 items (8 pages).

(A5) SPECIAL CONDITIONS FOR SAFE USE :

Unchanged

(A6) INDIVIDUAL EXAMINATIONS AND TESTS :

Unchanged.

(A7) ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :

Unchanged.

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/Dry seal

Page 1/1

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des Industries Electriques
Une société de Bureau Veritas

A-2 EC Type Examination Certificates

L C I E

1 **AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**

2 **Appareil ou système de protection** destiné à être utilisé en atmosphères explosibles **(Directive 94/9/CE)**

3 Numéro de l'avenant :
LCIE 00 ATEX 6009 X / 05

4 Appareil ou système de protection :
Transmetteur pour analyseur en continu
Type : CAT

5 Demandeur : EMERSON PROCESS Management

15 **DESCRIPTION DE L'AVENANT**
Mise à jour normative selon les normes EN 60079-0 (2006), EN 60079-1 (2004), EN 60079-7 (2007) et EN 60079-18 (2004)

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 60056808-557547/01

Paramètres spécifiques du ou des modes de protection concerné(s) :
Inchangés

Le marquage doit être modifié comme suit :
Ex demb IIB + H_2 T4
AVERTISSEMENT : NE PAS OUVRIR SOUS TENSION

16 **DOCUMENTS DESCRIPTIFS**

Dossier de certification N° 4.271-6078/4 rév.6 du 25/04/07.
Ce dossier comprend 4 rubriques (5 pages).

17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**
Inchangées

18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**
Conformité aux normes européennes EN 60079-0 (2006), EN 60079-1 (2004), EN 60079-7 (2007) et EN 60079-18 (2004).

19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**
La partie d'équipement protégée par le mode de protection « mb » est soumise aux épreuves suivantes selon la norme EN 60079-18 (2004) :
- Inspections visuelles (9.1)
- Rigidité diélectrique (9.2)

1 **SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**

2 **Equipment or protective system** intended for use in potentially explosive atmospheres **(Directive 94/9/EC)**

3 Supplementary certificate number :
LCIE 00 ATEX 6009 X / 05

4 Equipment or protective system :
Continuous analyzer transmitter
Type : CAT

5 Applicant : EMERSON PROCESS Management

15 **DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE**
Normative update according to EN 60079-0 (2006), EN 60079-1 (2004), EN 60079-7 (2007) and EN 60079-18 (2004) standards

The examination and test results are recorded in confidential report N° 60056808-557547/01

Specific parameters of the mode(s) of protection concerned:

Unchanged

The marking shall be modified as follows :
Ex demb IIB + H_2 T4
WARNING : DO NOT OPEN WHILE ENERGIZED

16 **DESCRIPTIVE DOCUMENTS**

Certification file N° 4.271-6078/4 rev.6 dated 25/04/07.
This file includes 4 items (5 pages).

17 **SPECIAL CONDITIONS FOR SAFE USE**

Unchanged

18 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**

Conformity to the european standards EN 60079-0 (2006), EN 60079-1 (2004), EN 60079-7 (2007) and EN 60079-18 (2004)

19 **ROUTINE VERIFICATIONS AND TESTS**
The part of equipment protected by the type of protection « mb » is submitted to the following tests according to the EN 60079-18 (2004) standard :
- Visual inspections (9.1)
- Dielectric strength (9.2)

Fontenay-aux-Roses, le 27 avril 2007

Le responsable de certification ATEX
ATEX certification manager

NOTIFIED BODY 0081 ORGANISME NOTIFIE

Henri CERVELLO

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Société Anonyme
au capital de 15 745 984 €
RCS Nanterre B 408 363 174

CAT 100 & CAT 200 Addendum

Instruction Manual
HAS9xE-IM-ATEX
05/2007

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